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ABSTRACT

Instances of metacognition uncovered during a qualitative research project with prospective middle school teachers during a sequence of summer courses were studied. These instances provide insights into how to include metacognitive assignments and discussions within the teacher education curricula. A review of the literature on reflection in teaching and teacher education served as a backdrop to the study. Audiotaped, semiformal interviews were conducted with six participants in the summer courses. Their experiences show that metacognition is natural for some preservice teachers, but that it can be developed further if teacher educators are willing to relinquish some level of authority in their classrooms. Metacognition, as a critical form of reflection, could prepare teachers to question the status quo in schooling and to question policies they find unjust. (Contains 13 references.) (SLD)

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Metacognitive Instances in Middle Level Teacher Education

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Introduction

The purpose of this paper is to make an argument in favor of metacognitive experiences for preservice teachers, especially those preparing to be middle school teachers. This paper will analyze the instances of metacognition uncovered during a qualitative research project with prospective middle school teachers during a sequence of summer courses. These metacognitive instances give insight into how to include metacognitive assignments and discussions within the teacher education curricula.

I use the word metacognition instead of reflection or critical reflection to signify both a move beyond the more typical discussions of critical reflection and to include the voice of one of my participants, a preservice teacher who defined critical thinking in terms of metacognition. I define metacognition in this paper as preservice teachers critically examining their *own* situations as students within teacher education programs and courses, in addition to examining current practices in K-12 schooling. Teacher education should be considered an opportunity for preservice teacher growth *for* future teaching, but in a Deweyan sense, also growth *through* teacher education (Dewey, 1916). Arnstine (1990) among others cautions that the means used in teacher education must correspond to the aims of both teacher education and teaching practice. She appeals to teacher educators, especially foundations specialists, to model the kinds of behaviors they are trying to develop in teaching preservice teachers. This paper will present a few instances of such growth during a sequence of teacher education courses required for middle school endorsement at a large state university in the mid-West.

Perspective/Framework

The framework for this paper is based upon and seeks to add to the theoretical arguments in favor of critical reflection in teacher education (e.g., Beyer & Zeichner, 1982; Greene, 1978; Zeichner, 1983) via a discussion of qualitative data on preservice teachers. Theoretical sources that call for reform of schooling, including at the college and university level (e.g., Apple, 1996; Cochran-Smith, 1995) remind us to question the quality of instruction in teacher education. Moreover, the typical conception of critical reflection could be challenged to include metacognition based on the qualitative data gathered in this study.

Donald Schön's *The Reflective Practitioner* (1983) mobilized many scholars behind the idea of reflection. He contends the uncertainties and ambiguities rampant in the professions especially the "minor" professions, such as education, must be embraced and prepared for. Beyer & Zeichner (1982) discuss reflection within teacher education and have led a charge to use teacher education as a means by which to reform the societal problems inherent in schooling. What Zeichner (1983) calls "critical reflection" challenges society by challenging schooling practices. Paired with Maxine Greene's (1978) conception of "wide-awakeness", the literature on critical reflection is persuasive. Greene notes that teachers, as moral agents, should practice what they preach. I am extending this to teacher educators. Furthermore, most scholars within this field discuss pedagogical practices that can promote critical reflection within teacher education in terms of reflecting on student teaching, creating a situation where preservice teachers admit to feeling conflicted, or reflection on K-12 situations or hypothetical cases (e.g., Beach & Pearson, 1996, Cochran-Smith, 1995, Zeichner, 1996). Metacognition as I define it here could be a useful addition to teacher educator pedagogical practices.

Because preservice teachers are in a student role in teacher education classrooms they are likely to feel that they should not challenge the authority of either the content of their readings or their instructors. They can easily become concerned with "playing the game" and what they are suppose to do as students (Becker, Geer & Hughes, 1968). For example, one of the preservice teachers I interviewed and instructed as her TA in the Philosophy class was able to utilize critical reflection in a required assignment to create an original case about a middle school student with lesbian mothers. Her assignment included a discussion of the school's responsibility to deal with matters of sexuality. She was not, however, able to think metacognitively about her experiences in teacher education when asked to do so. Her role as a "good" student prevented her from questioning the teacher education program she had just been admitted to, at least when asked to by her former TA.

Methods of Inquiry

The methods were two-fold. A broad review of the literature on reflection in teaching and teacher education served as a backdrop to qualitative inquiry within three middle school teacher certification courses (a Curriculum course, an Educational Psychology course and a Philosophy of Education course) at a large university during the summer semester. Over eighty students were enrolled in at least one of the courses, approximately sixty were enrolled in all three courses together. Classroom observations (in all three courses), participant observations were conducted as a fellow student-researcher in Curriculum and as a Teaching Assistant in Philosophy of Education, as well as casual observations and interactions with a subset of the preservice teachers enrolled in all three of the courses. Audiotaped, semi-formal interviews were conducted with six participants (all of whom were in my section of the Philosophy of Education course) out of the

twenty member section. The theoretical review served to ground the data gained via interaction with participants and my overall conclusions.

The data sources included articles and books on reflection in teaching and teacher education, (e.g., Beach & Pearson, 1996; Schön, 1983; Zeichner, 1983) as well as a few pieces on college students and teacher education (e.g., Becker, Geer & Hughes, 1968; Lortie, 1975). Moreover, the fieldnotes and audiotapes of my interactions with preservice teacher participants were coded according to instances of metacognition and analyzed in relation to the literature.

Middle School Movement and Course Work

The site of this study is framed within the middle school movement. The current middle school movement is a revival of progressive pedagogical practices such as teaming, interdisciplinary units, block scheduling, shared-decision making and a great emphasis on pre-adolescent development. Reports in the early 1990s, (e.g., *Turning Points)* have led to changes in state certification requirements for middle school teacher certification. These requirements became a sequence of summer courses for preservice teachers. In general terms the middle school movement is a movement towards a more familial atmosphere for students and teachers, with increased teacher requirements and cognitive opportunities in terms of meeting with other teachers, interacting with a smaller group of students and making more decisions within the school. Based on my data collected, I suggest that the addition of such content in teacher education courses should be accompanied by an alteration of traditional teaching styles by teacher educators.

Instances of Metacognition

The small number of instances of that I identify as metacognitive during this ten week sequence of intense course work were both elicited and occurred naturally. Metacognitive instances were elicited by the instructors through discussion or assignments, elicited by me via the nature of my interview questions, or volunteered to me in informal conversation or observed during my observation of informal conversation between a small group of preservice teachers. I highlight these instances in the hope of moving the conversation towards how to include more instances into the teacher education curricula, especially in the middle school curricula.

Originally just interested in critical thinking in general, I noticed these instances because of their contrast to business as usual in the middle school courses. As one of my preservice participants commented during a discussion of the teacher education program requirements, "Well, we have to go to school for a reason". This sort of acceptance of the expertise of university officials can be traced back to the larger forces of authority that preservice teachers as college students are not likely to question. This is in contrast to a student I call Cathy who had an ongoing conversation with her clique about the structure of the Educational Psychology course was. After most of the students enrolled had just completed the Methods course that discussed team teaching, being student centered and other tenets of the middle school movement, they then enrolled in the Educational Psychology lecture for 60 students. Cathy did not just accept the structure of that course as logical, but saw its failure to model the educational practices the content discussed. Cathy, as will be seen in more depth below, is an exemplary preservice teacher in terms of her ability to think metacognitively.

Other instances of metacognition occurred within the assignments, during discussions between preservice teachers, and after being directed by my interview questions. I will highlight

several fleeting instances and then focus on Cathy because of her ability to think metacognitively as a student and my faith that she will be able to "teach against the grain" (Cochran-Smith, 1995) when she becomes a teacher. I will begin with elicited metacognition because this is where teacher educators did and can continue to make a difference. I will first discuss an essay assignment on Dewey and then an assignment suggesting completion in a nontraditional medium.

Dewey Assignment

In the Philosophy of Education course, preservice teachers were asked to read Dewey's *Experience in education* and use his conceptions of educative and mis-educative experiences to critique the assumption that field experiences are always the best way to learn how to teach. Most of the students discussed in their essays how field experiences are educative, even if they just give preservice teachers an indication of what *not* to do as practicing teachers. Although that is an acceptable answer, it fails to take into account the reproduction of conservatism and negativism that field experiences can also promote (e.g., Lortie, 1975). One student, in my section of twenty, did discuss how encouraging negative teacher attitudes could be mis-educative. This assignment encouraged metacognition and could be followed up with further discussion of how teachers learn to teach. Giving such assignments is one way to encourage metacognition during teacher education. Giving assignments to preservice teachers that model those to be given to their future students is another.

"Breaking the Cycle"

The Curriculum professor made a conscious effort to model most of the methods she was discussing. One interchange between students in a small group I was a member of highlight how

this can lead to metacognitive thinking. The professor had given an assignment in conjunction with reading Freire's *Pedagogy of the Oppressed* . Suggestions in the syllabus included creating a skit, sculpture, a painting, a video, and many other suggested media beyond writing an essay. Students in my group discussed how all the nontraditional choices frightened them. One student, Roz, wisely remarked that the professor was trying to "break the cycle"; Roz meant that if preservice teachers did non-traditional assignments they would be more likely to give them to their own students once they became teachers. Roz later had an informal discussion with another student about whether teacher education success predicts success as a teacher, showing some level of awareness of the scholarly debates in teacher education. Not only do the pedagogical practices of teacher educators matter, but the structure of teacher education programs can be the content of metacognitive thinking. Like Cathy, a student I call Michael, saw some problems with his university preparation.

Michael's Physics Classes

Michael used the word "metacognition" when asked to define critical thinking. He said, "Critical thinking is...thinking about the how and why of doing things and teaching rationales...a big aspect of it would be *metacognition* [emphasis added], just be aware of what you are learning..." He stated that he feels comfortable with his ability to think metacognitively. Moreover, he later discussed his awareness that the Physics courses he is taking in college are geared towards students preparing for graduate school and not for himself as a future teacher. Moreover, he is skeptical about the overemphasis, as he sees it, of student-centered teaching in the middle school teacher education courses he just completed at the time of the interview. He

attributes that to his own experiences as a student in a more traditional junior high school with teacher-centered pedagogy.

Cathy as an Exemplar

Cathy struck me as being the most conscious of her teacher preparation. She knows how to play the game of student, but also moves regularly beyond student mode to future teacher mode. She keeps a journal of her thoughts on teaching and is critical, as discussed earlier, of teacher education instructors who do not model good teaching. She critiques both teaching methods that model what she has not been taught in other education courses *not* to do as a teacher and messages about students that would cause a future teacher to be mis-educative.

Movement into Teacher Mode

When I asked Cathy during an semi-formal interview what she learned from her group paper and presentation assigned in the Philosophy of Education course she told me she learned about working in a group and applied this to her future role as a practicing middle school teacher. More specific she said:

> More than anything we learned about how to put in practice the whole idea of being a team and being with people who are totally different...I had people with very different backgrounds and very different teaching plans and together we had to come up with what we could agree on as a school...So I think what I learned the most, maybe not the words on paper, but the process of working together.

Other students took the group assignment to be a model of working as a team, as well, but Cathy also talked about her thoughts on team teaching as a future teacher. She is aware of all the extra

time it takes and furthermore she is worried about how the other teachers are going to react to her enthusiasm. "We are going to walk into the building and we are going to be like, 'Hi, let's do team teaching!'...They are going to think, 'Who is this flaky little bimbo with all these teaching strategies?'" She indicated that she had discussed this with her group, too. This awareness of the problems of teaming may be a result of her experiences in her mom's school. Her movement beyond just playing the game, in which case she may have highlighted the content of her group assignment, rather than the process, shows a metacognitive ability.

Moreover, Cathy's metacognition allows her to realize that she will have challenging students like herself and she dreads that. Cathy is aware of her role as a current student with teachers of her own, is conscious of her future role as a teacher and is conscious of the implications of her current status and evolution towards teacher status. Cathy is able to imagine herself "teaching against the grain" (Cochran-Smith, 1995), and so can I. She knows the standard practices of middle or junior high schools, as well as the arguments made by proponents of the middle school movement. More specific, she commented on and made a joke about writing a paper against group grading for a group grade. Her group's solution was to incorporate an individual journal to add individual effort into the mix. She knows the standard practice of using individual, competitive work to motivate students, but also knows the arguments made by cooperative learning experts. She knows both the standard practices, as well as the critiques of them, as Cochran-Smith (1995) advocates for preservice teachers.

Personal Background Characteristics

It is possible that Cathy would be just as metacognitive without the few assignments, discussions and researcher questions. It could just be part of her personality. Indeed, I did

uncover some personal background characteristics that seem to reinforce her ability. For one, her group of preservice teacher friends reinforces her--a group that one of them termed somewhat facetiously "outcasts". Her stepdad encouraged her to think for herself growing up; moreover her mother's position as a school administrator and Cathy's resulting experiences with teachers has made her more aware of the realities of working with a team of teachers, for example.

Results/Conclusions

Metacognition, as I define it as preservice teacher growth *through* teacher education and not just *for* future teaching, needs to be developed further. More attention to instances of metacognition as well as structured curricula that capitalize on metacognitive thinking should receive more attention in teacher education reform. Some preservice teachers naturally engage in metacognitive thinking, however, it can also be developed further if teacher educators are willing to relinquish some level of authority in their classrooms. If teacher educators desire their preservice teachers to teach "against the grain" (Cochran-Smith, 1995) when they become teachers, they must allow them space to do so within teacher preparation. The educational significance applies to both teacher education and K-12 schools.

Teacher education reform has called for more attention to critical reflection. Metacognition, as a critical form of reflection, could prepare teachers to question the status quo in schooling. Because schooling remains filled with inequities and conservatism, teachers should be prepared to teach according to their convictions and to question school policies they find unjust. In order to do so, space to actively practice such thinking and behavior could be given within the teacher education curricula. Social foundations of education courses, for example, are well suited to include such analysis of school and university policies and their educational ramifications. In

closing, I challenge teacher educators to find ways to practice what they preach. The metacognitive instances described here suggest one place to start, especially for middle school teacher educators.

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